



# Poughkeepsie 9.44.55

Rethinking the Arterials &  
Interchange

*Committee Meeting #10 - Arterials*

February 9, 2022

Dutchess County Transportation Council



# Agenda

- Recommendation for Arterial Pilot Project
- Where we have been
- Key Comments
  - Viability of 3 to 2 Concept
- Sensitivity Analysis
- Recommendation
- Discussion / Next Steps

# Pilot Project for the 3 to 2 Concept

- Real world test
- Research project
- Duration
- Study Topics
  - Delays
  - Travel times
  - Crashes
  - Diversions
  - Public feedback

## Components of a Pilot Project

- Draft a project plan
  - Purpose
  - Time frame
  - Temporary Traffic Control Plan
  - How success is measured
  - Data to be gathered
  - Public involvement
- Final report to summarize the results



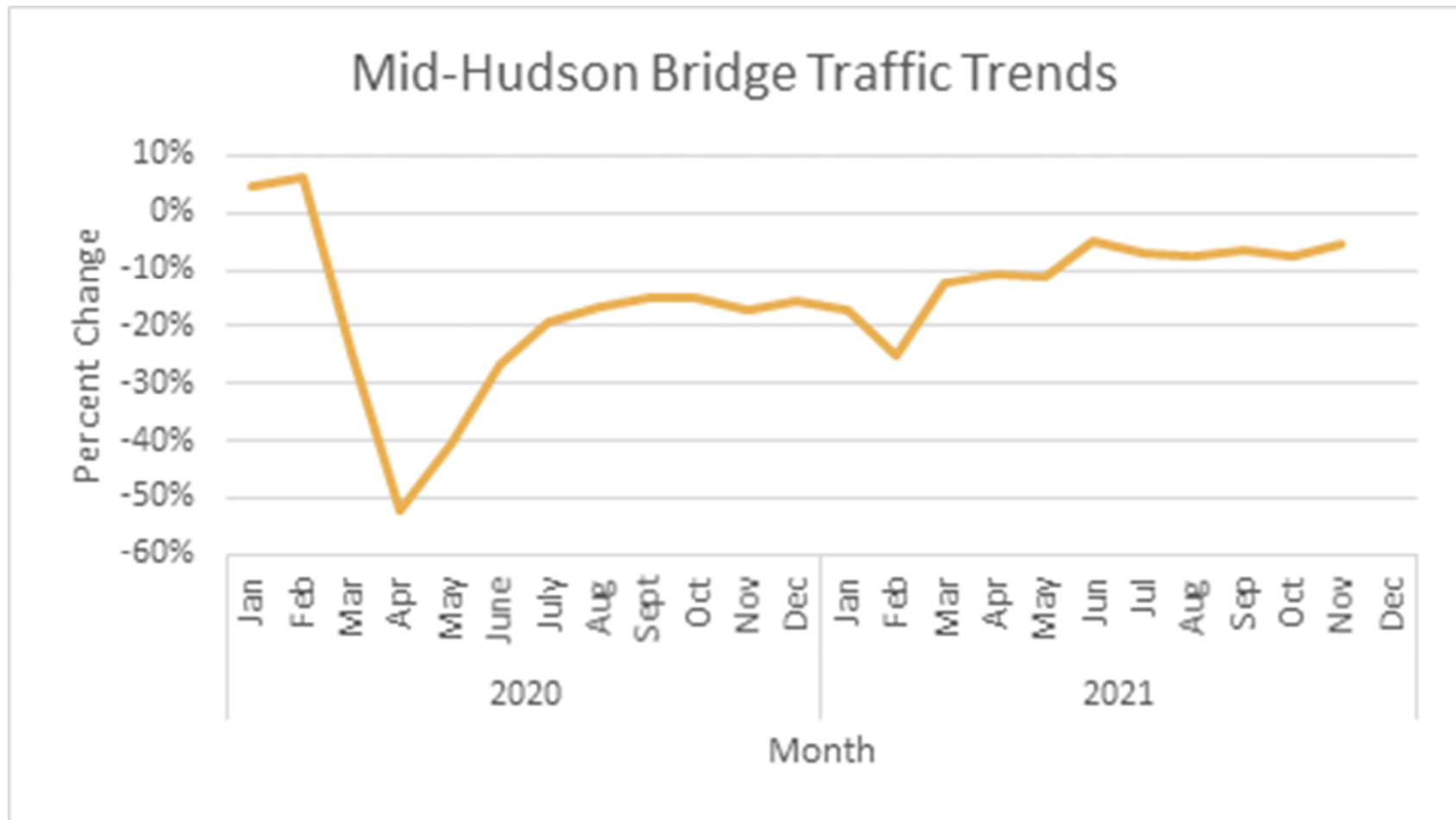
# Where we have been

# Study Purpose

- Identify feasible design concepts to the Route 9/44/55 interchange and Route 44/55 arterials:
  - › Based on an informed and public process that...
  - › Maximizes safety, livability, and connectivity, and
  - › Delivers acceptable traffic operations

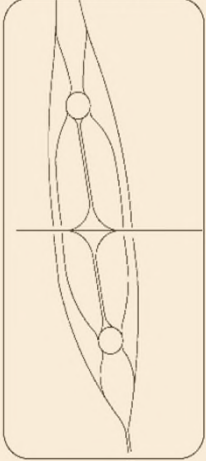


# Travel Trends since COVID



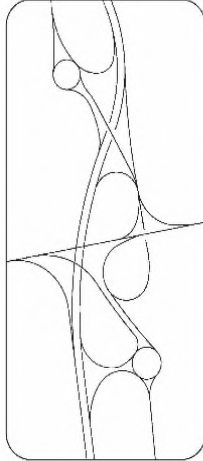
# Interchange

**Concept A**



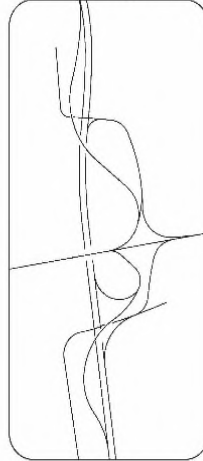
Roundabouts  
on Route 9

**Concept B**



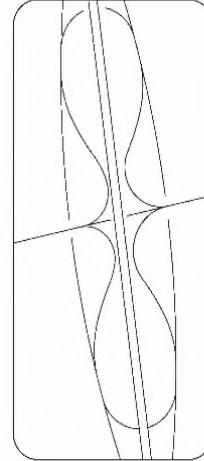
Route 9  
Realignment

**Concept C**

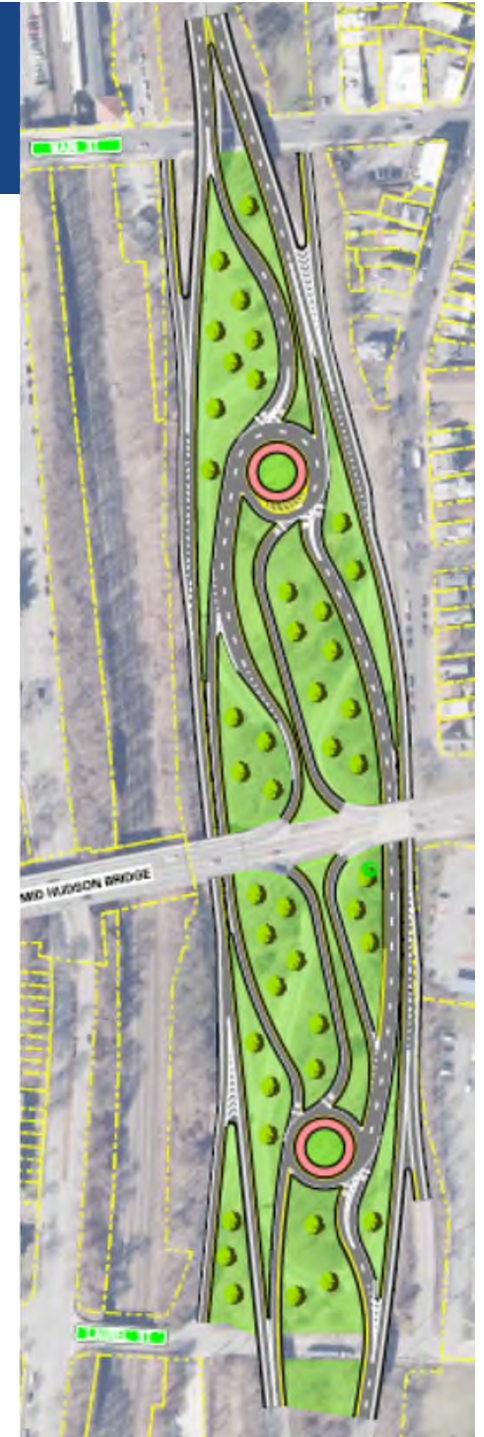


Half  
Clover

**Concept D**

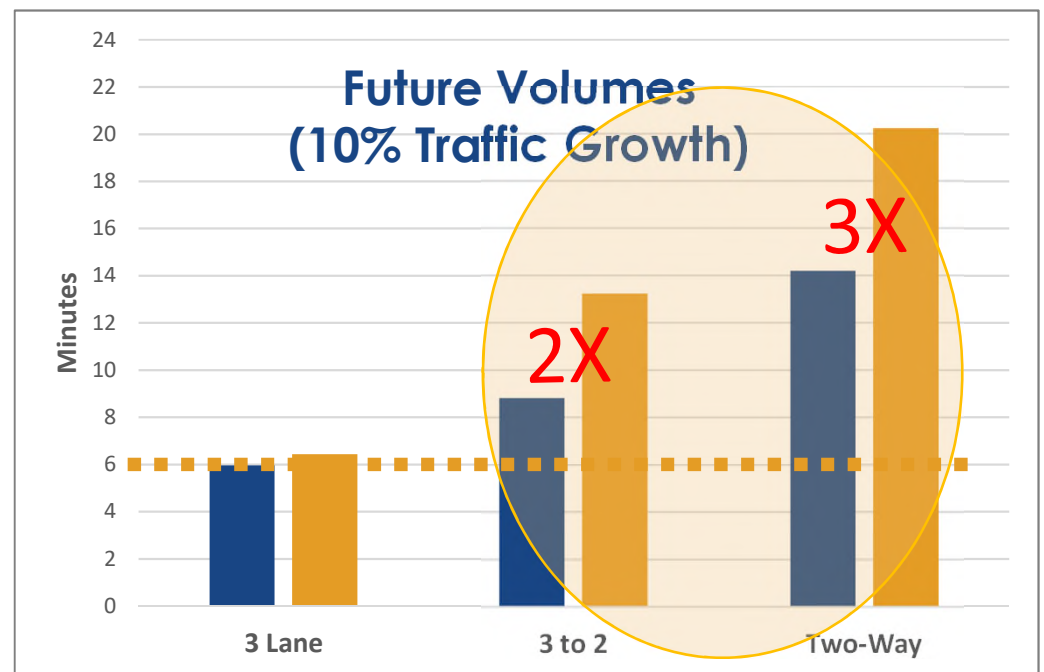
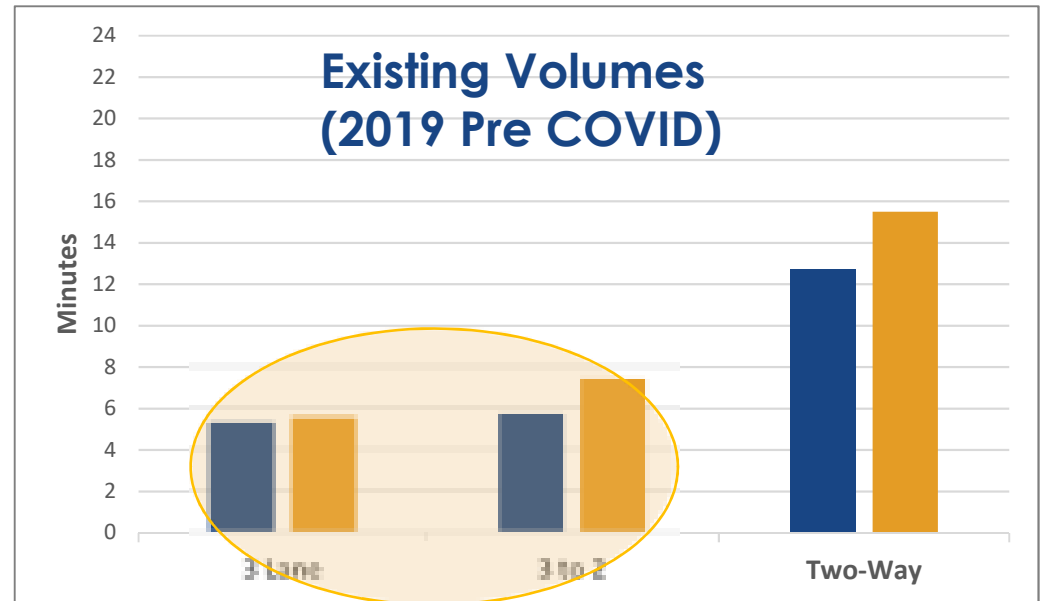
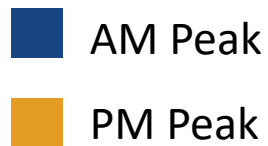


Route 9  
Flyover

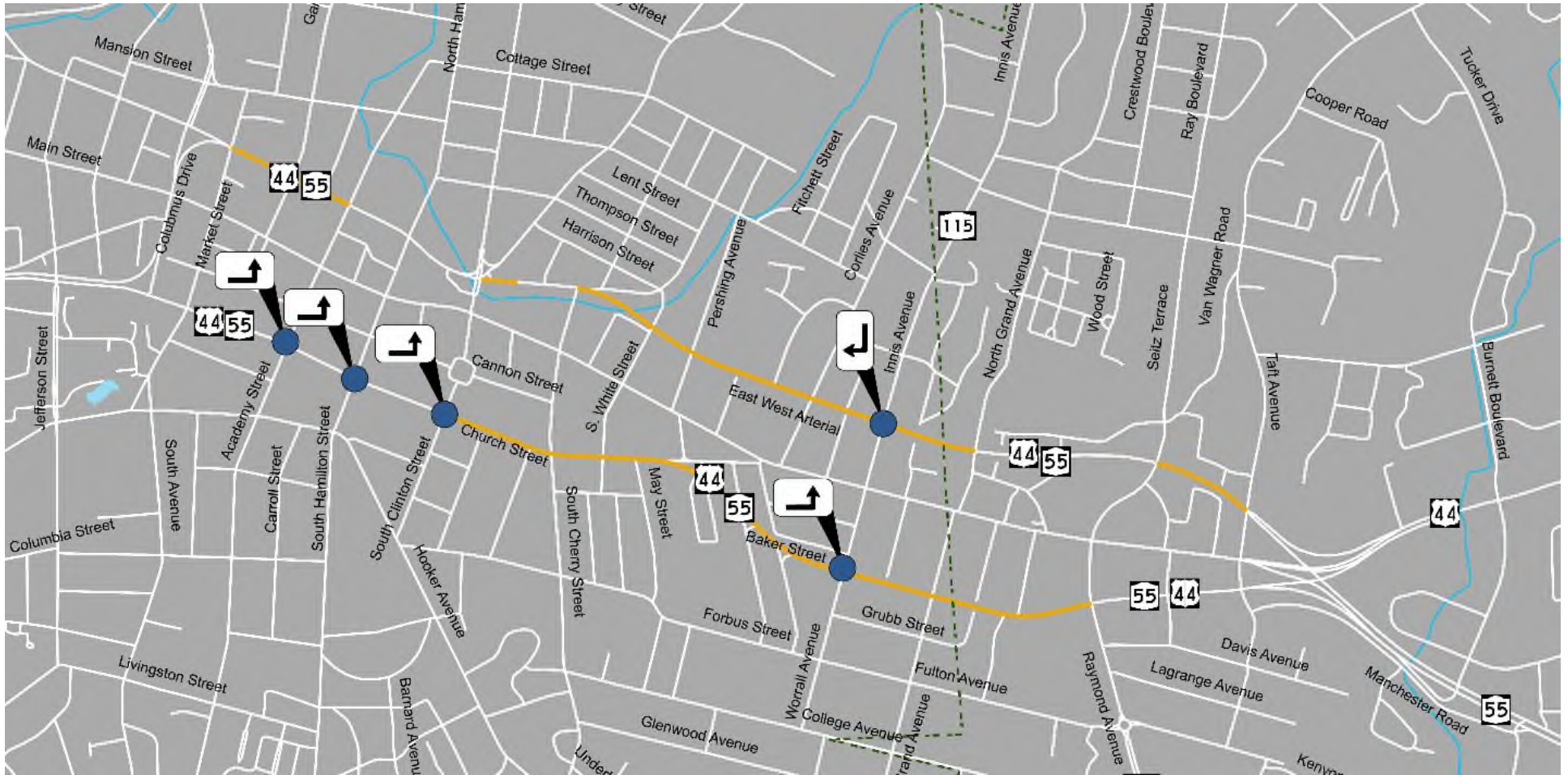


# Arterials

## Average Travel Time Both Directions

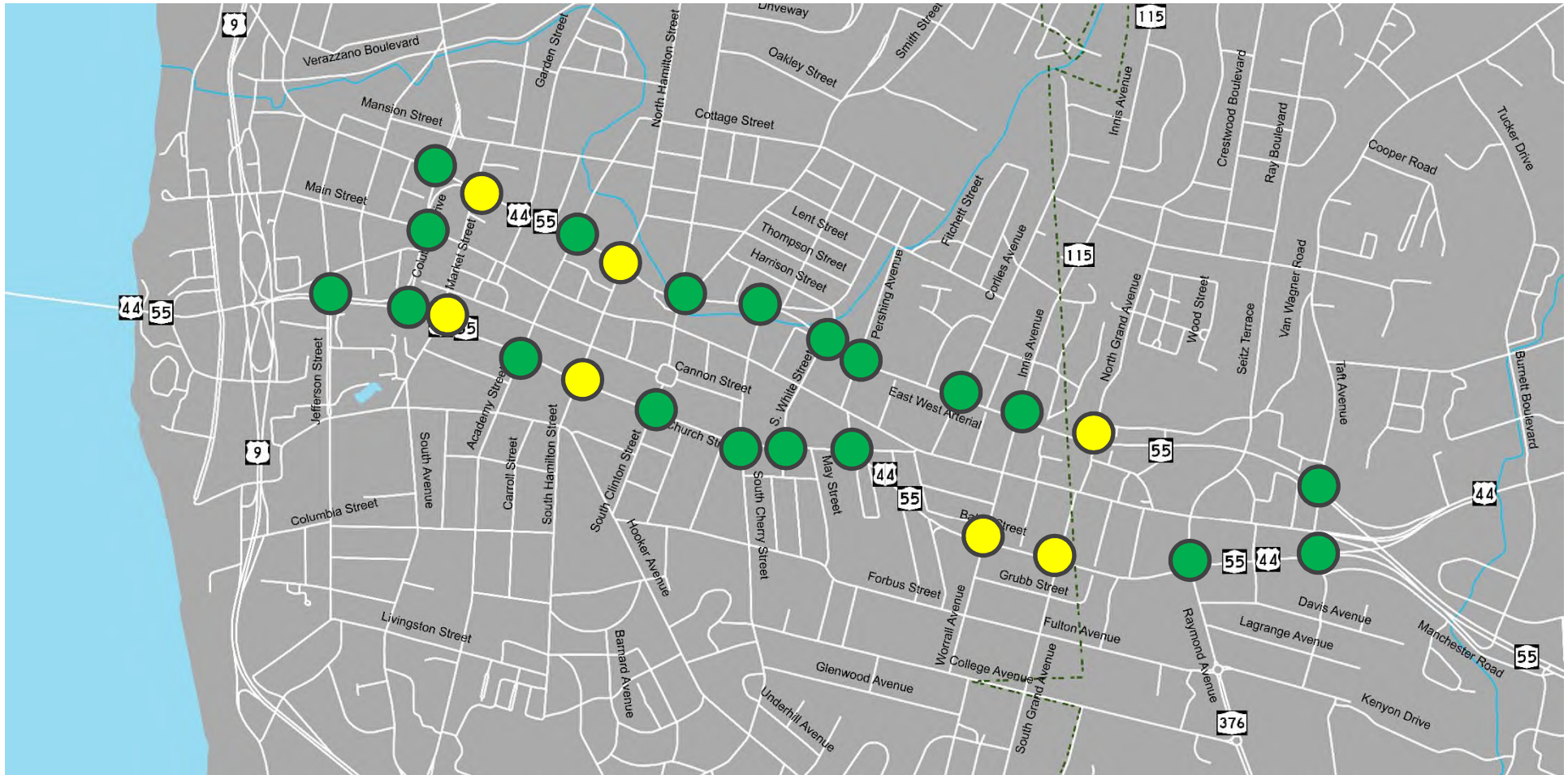


# Turn Lanes



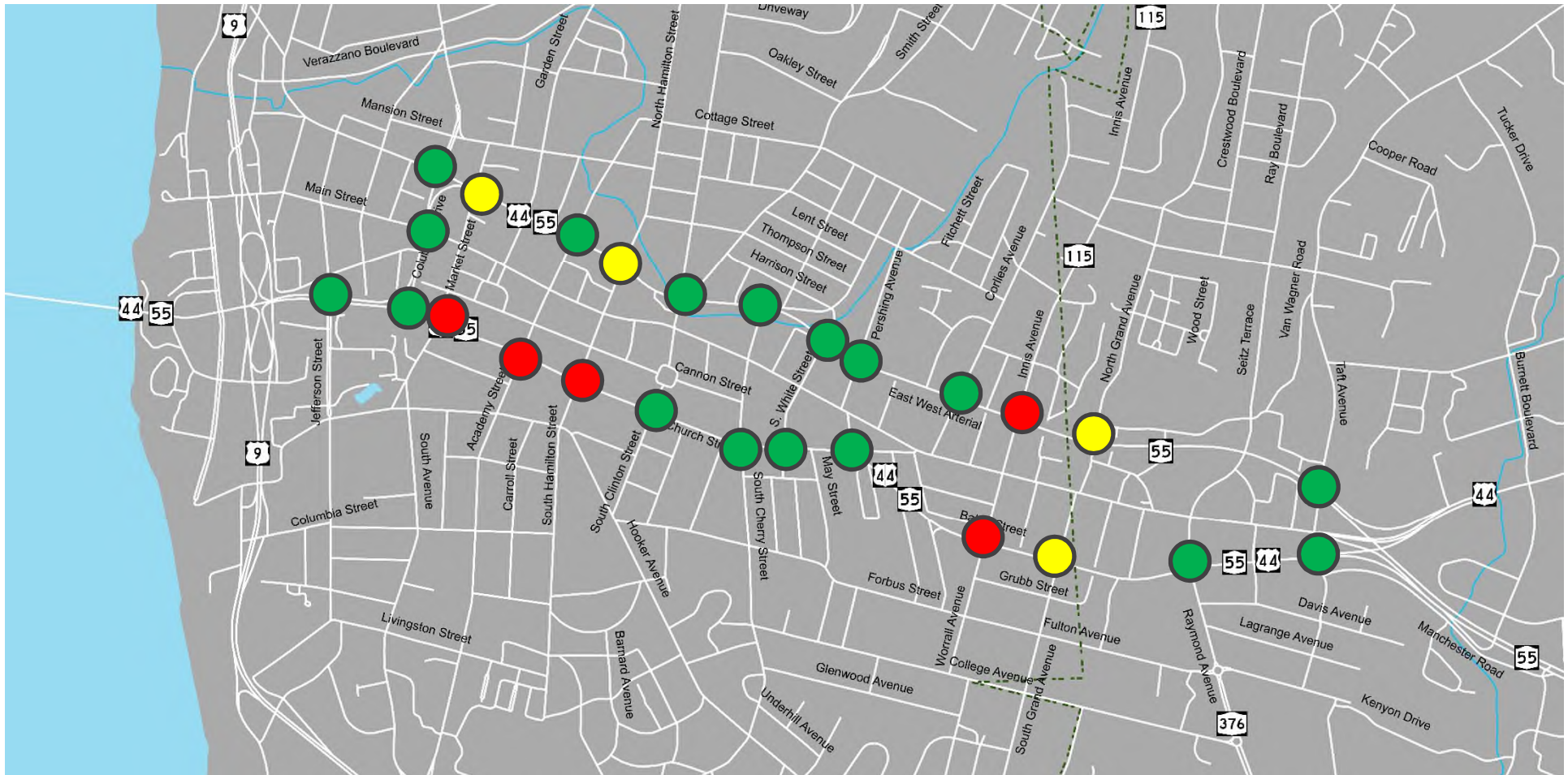
# Level of Service – 3 to 2 Concept with Turn Lanes

Existing 2019 Peak Hour Volumes (Worst Case AM or PM)

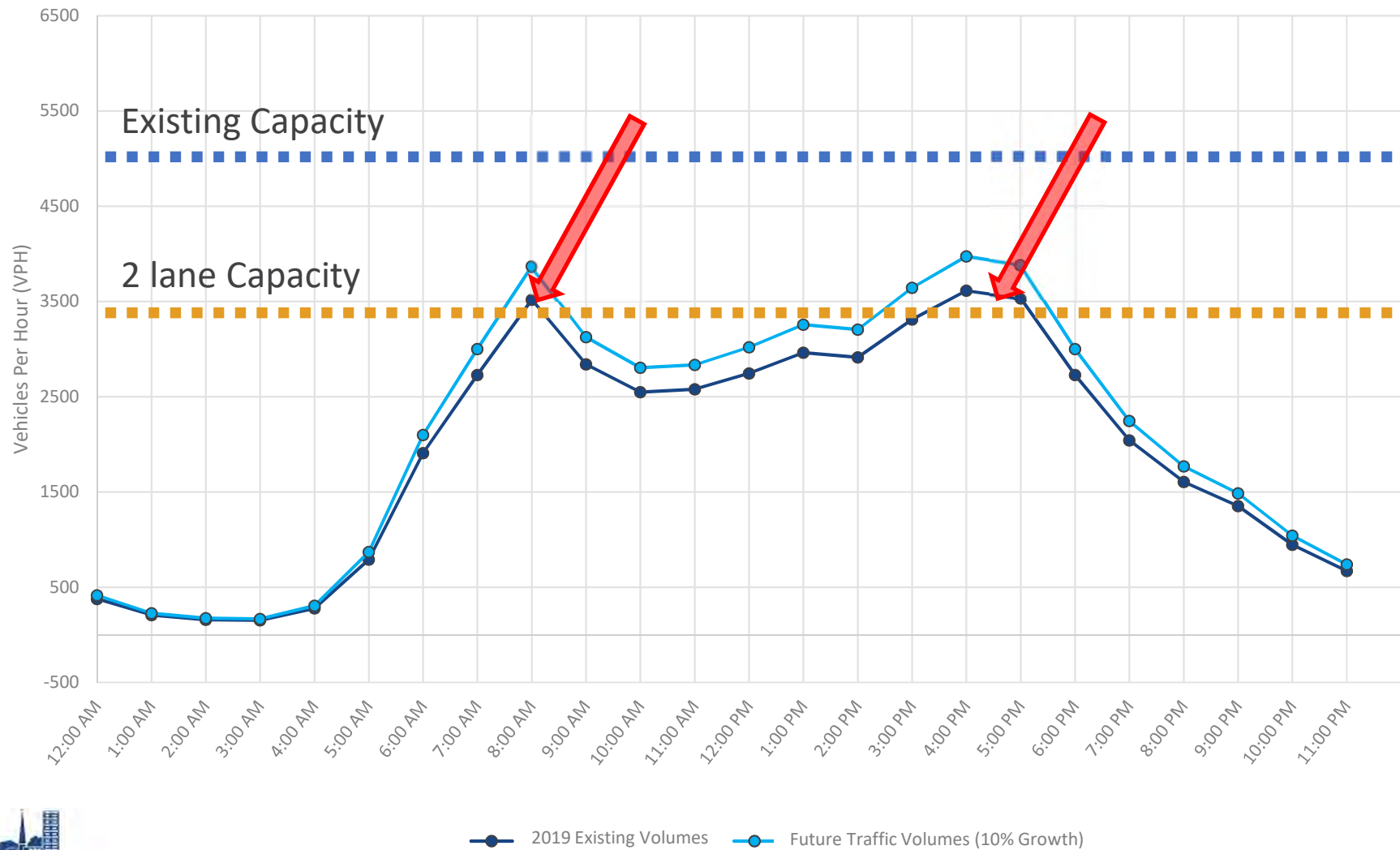


# Level of Service – 3 to 2 without Turn Lanes

Existing 2019 Peak Hour Volumes (Worst Case AM or PM)

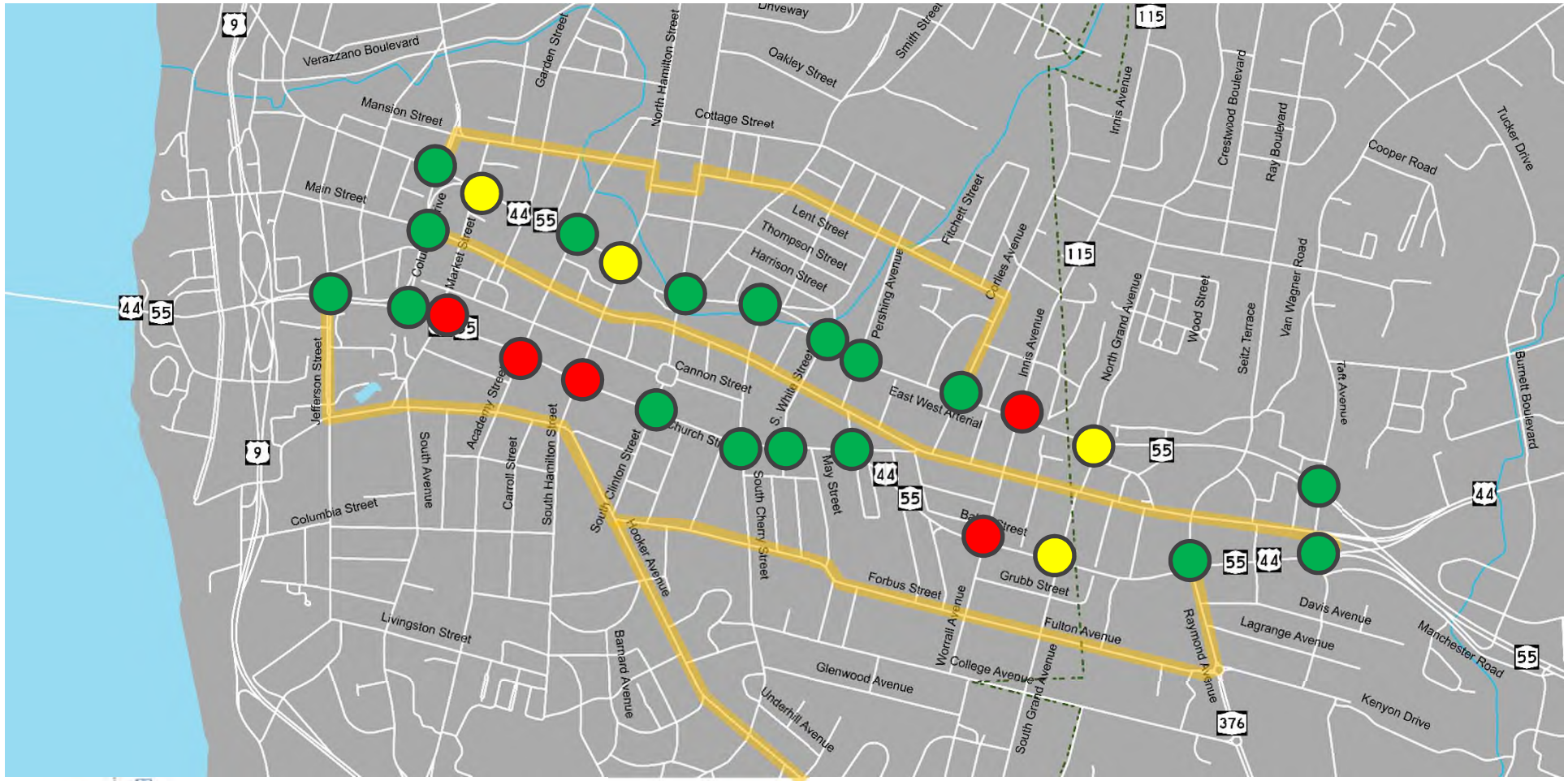


# Theoretical Capacity Illustration



# Diversions – 3 to 2 Concept without Turn Lanes

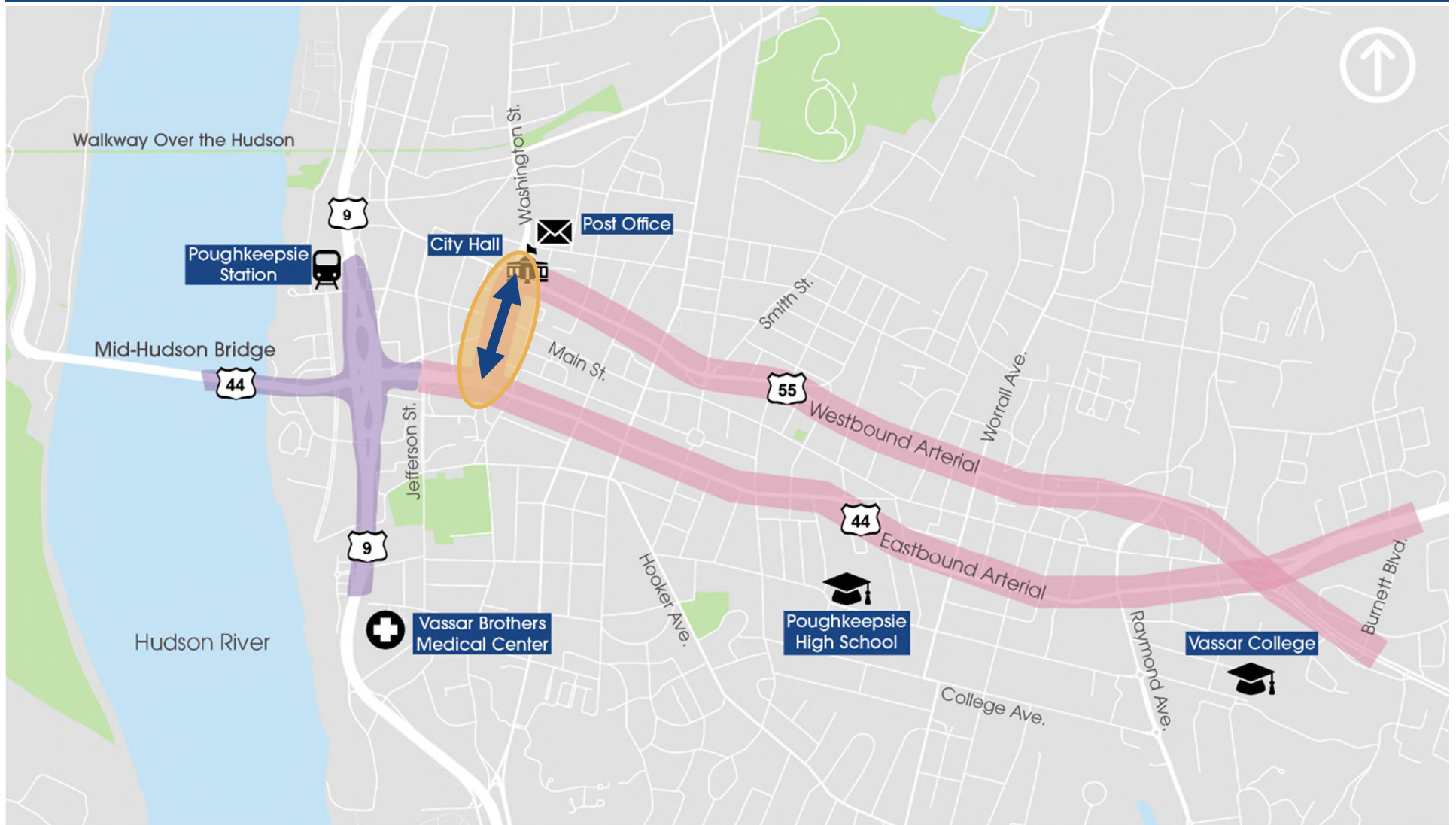
Existing 2019 Peak Hour Volumes (Worst Case AM or PM)



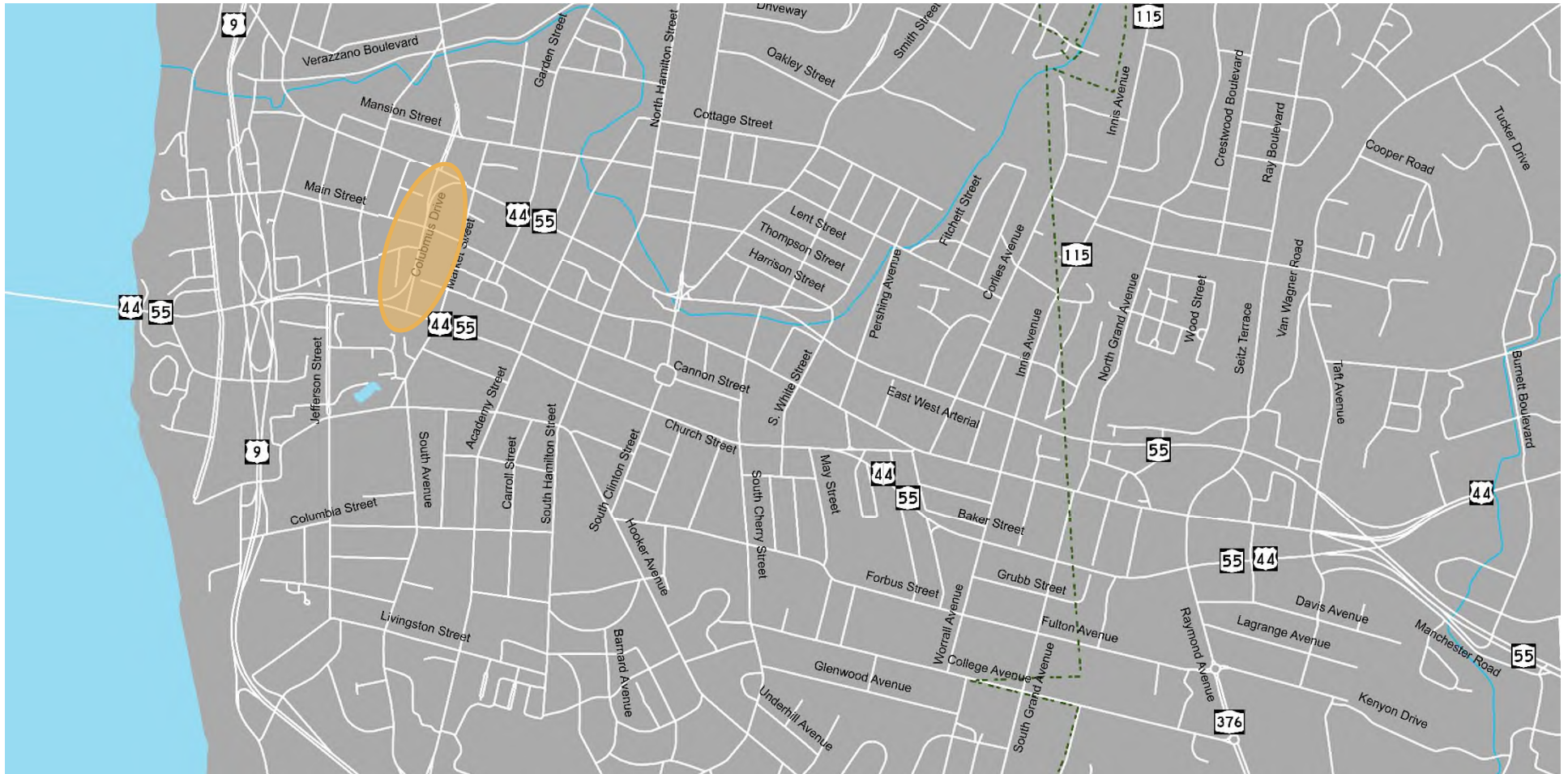


# Key Comments

# Two-way Columbus

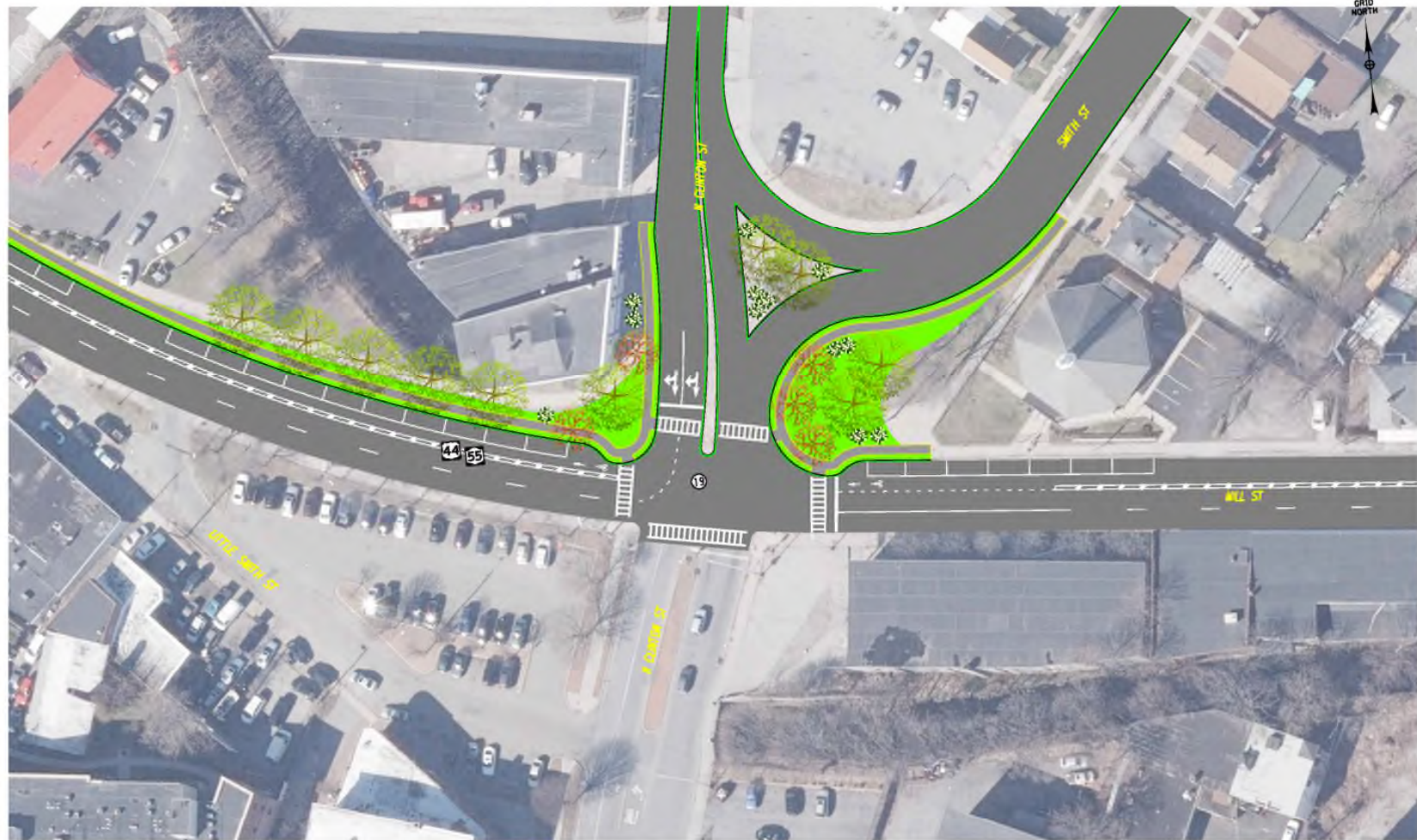


# Columbus Drive Alternative





# Clinton Street Intersection



### 3 TO 2 CONCEPT

POUGHKEEPSIE 9.44.55  
CITY & TOWN OF POUGHKEEPSIE  
DUTCHESS COUNTY, NEW YORK



PROJECT: 119-084	DATE: 10/2021	FIGURE: 27
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# Additional Comments

- Safety as primary goal
- Open up Cul-de-sacs
- Trees
- Crosswalks
- Roundabouts

Can we promote safer intersections by adding roundabouts?

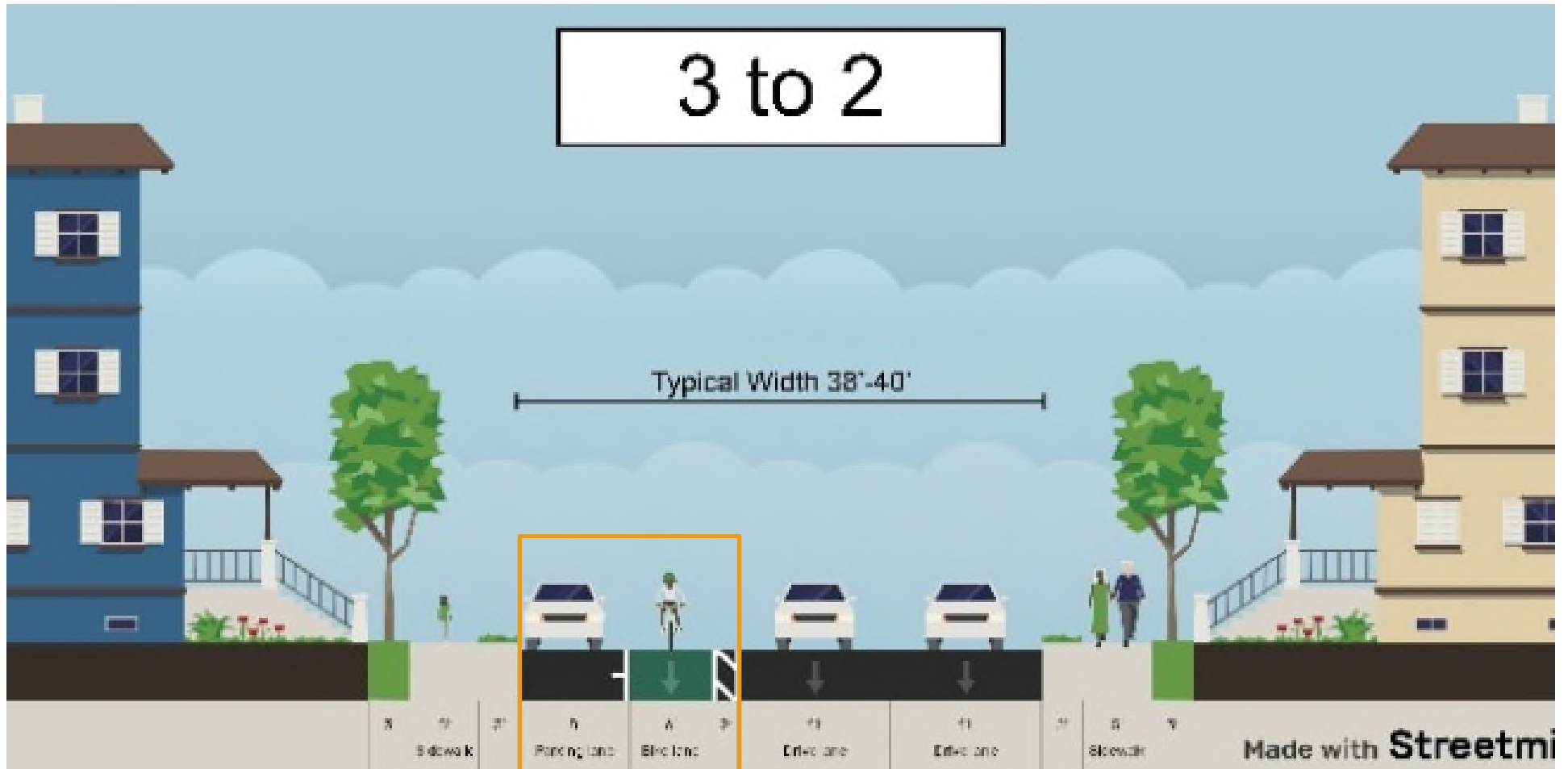
Intersection Location	Type	Diameter
1. Columbus Drive & Mill St.	Single Lane	100'
2. Columbus Drive & East-Bound Arterial	Single Lane	100'
3. Catharine St. & West-Bound Arterial	Mini	54'
4. Academy St. & East-Bound Arterial	Mini	60'
5. Hamilton St. & West-Bound Arterial	Compact	80'
6. Hamilton St. & East-Bound Arterial	Mini	60'
7. Clinton St. & West-Bound Arterial	Single Lane	100'
8. Clinton St. & East-Bound Arterial	Mini	65'
9. Innis Ave. & West-Bound Arterial	Mini	70'
10. Worral Ave. & East-Bound Arterial	Mini	70'
11. Raymond Ave. & West-Bound Arterial	Compact	80'
12. Raymond Ave. & East-Bound Arterial	Compact	80'
13. Taft Ave. & West-Bound Arterial	Single Lane	100'



Based on recommendations from  
Michael Wallwork, Roundabout  
Expert/Street Designer

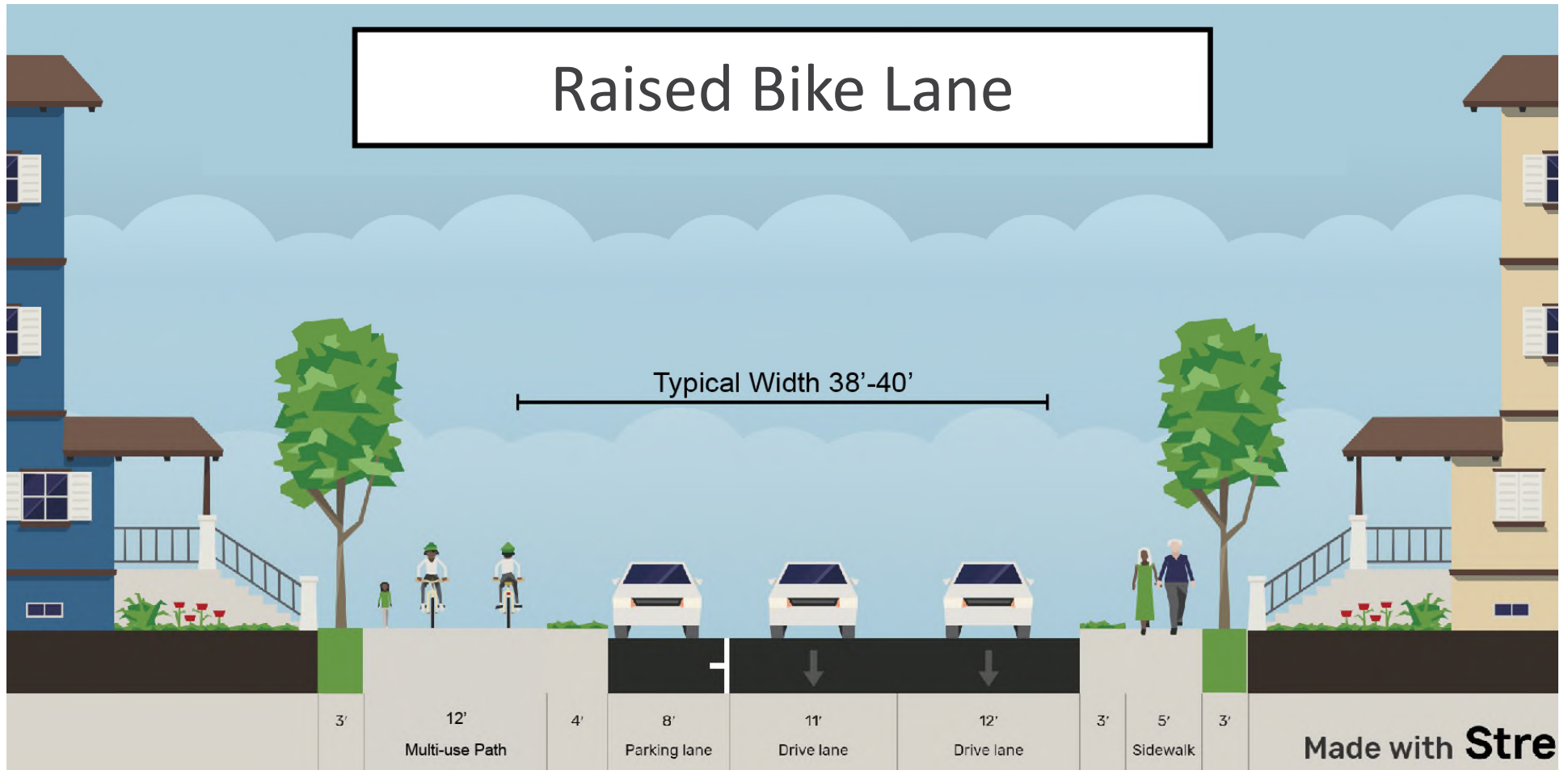
**MASS.**

# 3 to 2 Concept – Draft Report



# Raised Two-Way Bike Lane

NYSDOT Main Office Ped/Bike Coordinator



# Viability of 3 to 2 Concept

- Traffic Growth
- Diversions
- Level of Service
- Central Business District (CBD) Characteristics
- Environmental
- Safety Benefit
- Parking
- Snow Removal & Trash Collection

# Viability of 3 to 2 Concept

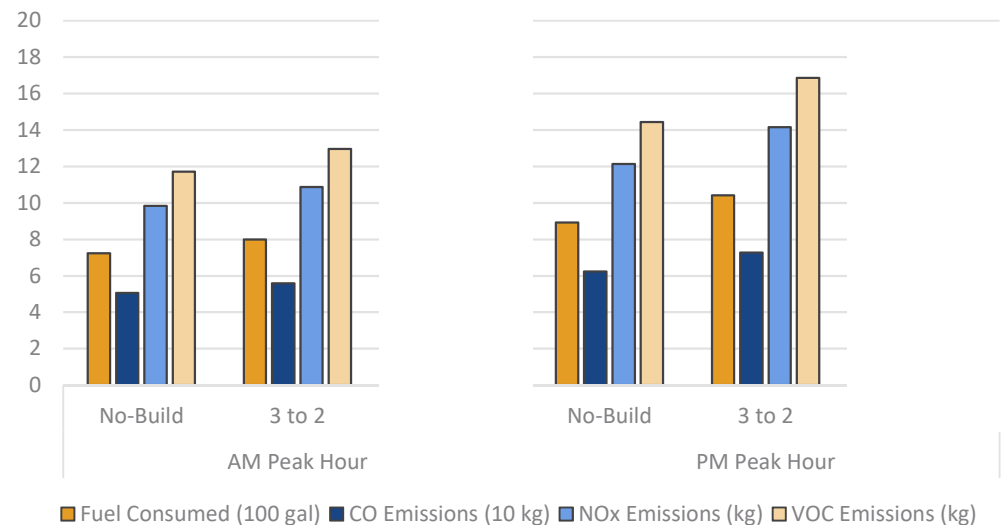
## Sensitivity Analysis

- Traffic Growth
- Diversions
- Level of Service
- CBD Characteristics
- Environmental
- Safety Benefit
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# Viability of 3 to 2 Concept

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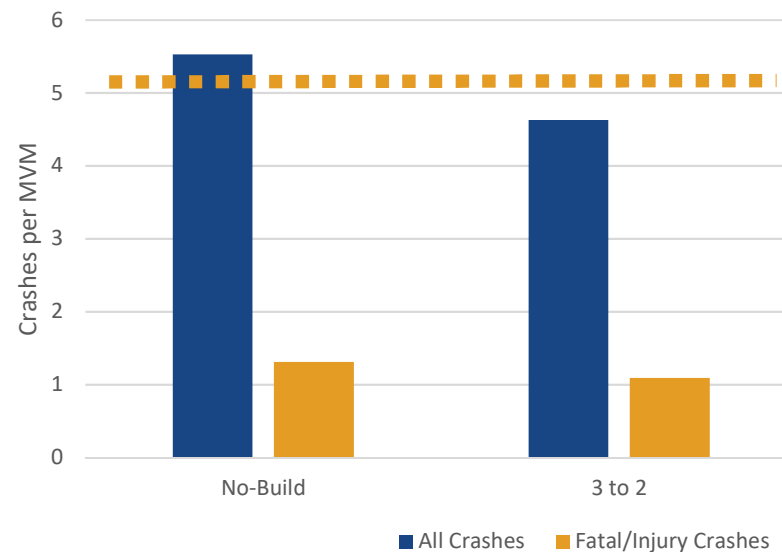
Fuel Use and Emissions Comparison



# Viability of 3 to 2 Concept

- Traffic Growth
- Diversions
- Level of Service
- CBD Characteristics
- Environmental
- **Safety Benefit**
- Parking
- Snow Removal & Trash Collection

Crash Rate Comparison (Based on NYSDOT Average Crash Rates)



# Viability of 3 to 2 Concept

- Traffic Growth
  - Diversions
  - Level of Service
  - CBD Characteristics
  - Environmental
  - Safety Benefit
  - Parking
  - Snow Removal & Trash Collection
- Parking restrictions on collection days and during snow emergencies
  - Delivery vehicles would temporarily occupy the bike lane/painted buffer (8')
  - Known delivery areas could be established as loading zones.
  - Snow removal will likely require an MOU



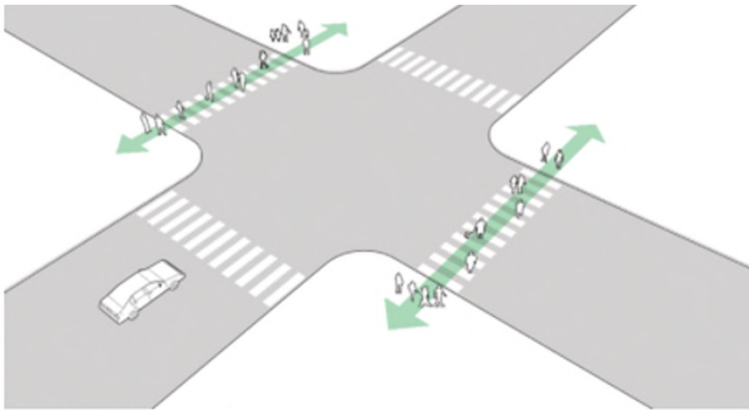
# Sensitivity Analysis

# Sensitivity Analysis

- 5% Traffic Growth
- -10% Capacity (CBD Characteristics)
  - › narrow street rights-of-way, frequent parking maneuvers, vehicle blockages, taxi and bus activity, dense population and mid-block curb cuts. Use of this factor should be considered on a case-by-case basis. ... this factor should be used in areas where the geometric design and the traffic or pedestrian flows, or both, are such that the vehicle headways are significantly increased to the point where the capacity of the intersection is adversely affected.

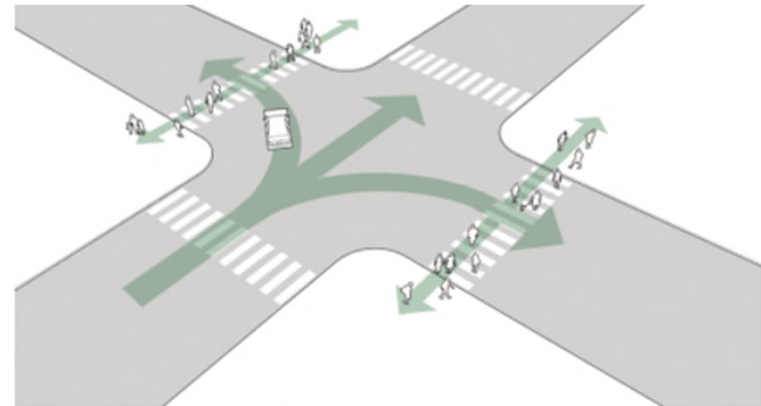
# Sensitivity Analysis Cont'd

- Leading Pedestrian Interval



**Phase 1: Pedestrians only**

Pedestrians are given a minimum 3–7 second head start entering the intersection.



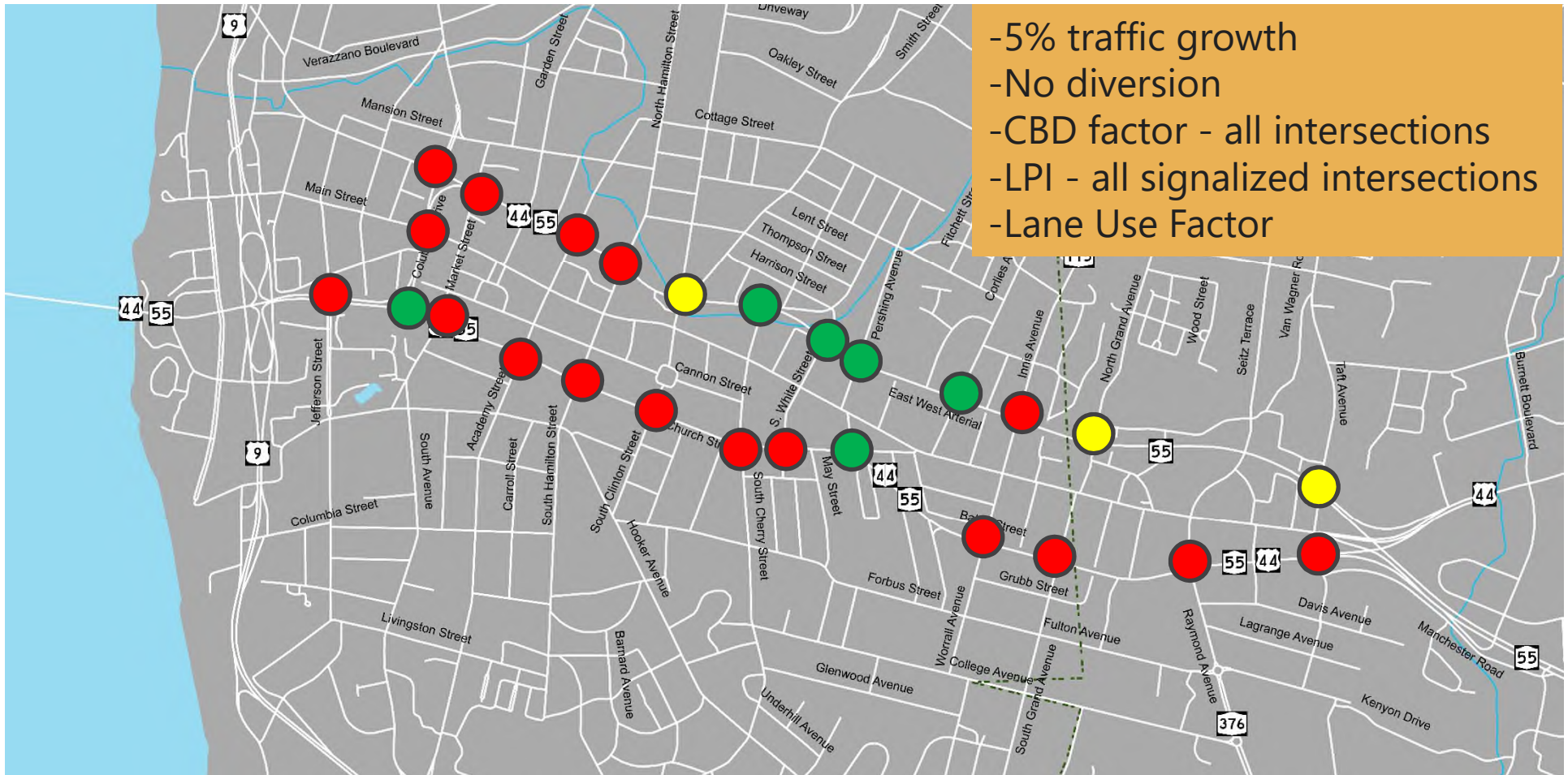
**Phase 2: Pedestrians and cars**

Through and turning traffic are given the green light. Turning traffic yields to pedestrians already in the crosswalk.

- Lane Use Favoring

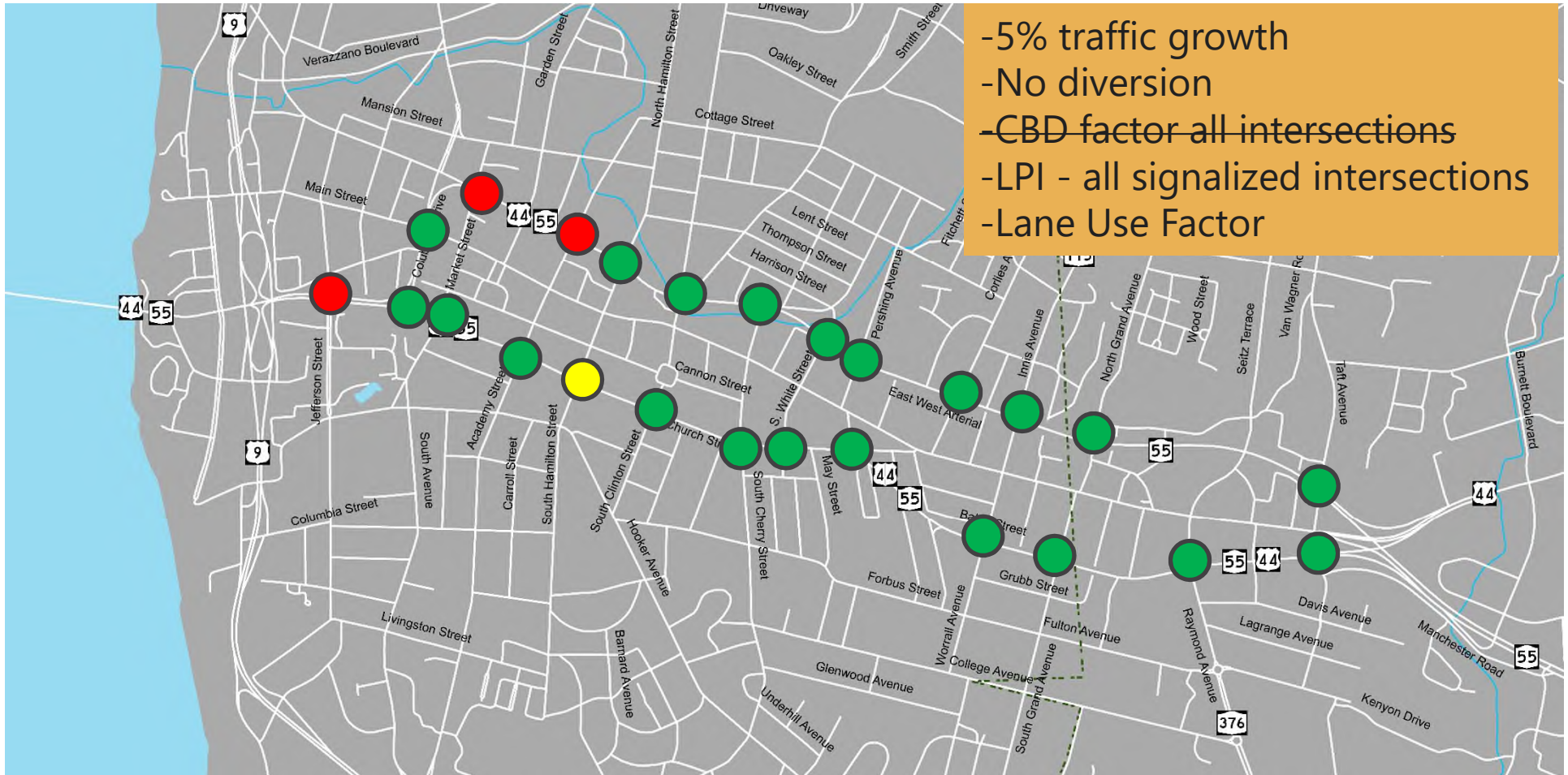
# Sensitivity Analysis

## Worst Case AM or PM



# No-Build

## Worst Case AM or PM





# Recommendation

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- Pilot Study to test 3 to 2
  - › If confirmed, evaluate two-way Columbus during design

## Components of a Pilot Project

- Draft a project plan
  - Purpose
  - Time frame
  - Temporary Traffic Control Plan
  - How success is measured
  - Data to be gathered
  - Public involvement
- Final report to summarize the results



# Independent Utility

# Independent Utility

- Columbus Drive 4 to 3 (alternative to Square the Weave)
- Coordinate signals for 30 mph
- LPI pedestrian phasing
- Jefferson St – extend turn pocket
- Clinton Street improvements



# Discussion

# Next Steps

- Website updates
  - › Final Report & Exec Summary
- Press Release
- Potential Committee Meeting?
- 3/21 City Common Council
- 3/23 Town Board
- Data / Model transfer

Contract  
Complete  
3/31/22



# Thank You

# FHWA Road Diet Informational Guide

	West Segment	
Direction	Eastbound	Westbound
Location	265' East of Academy	265' East of Catharine
Count Date	Dec-17	Dec-17
0:00	225	174
1:00	128	84
2:00	90	70
3:00	84	91
4:00	134	165
5:00	338	397
6:00	870	991
7:00	1526	1493
8:00	1564	2105
9:00	1283	1509
10:00	1235	1333
11:00	1311	1320
12:00	1358	1355
13:00	1402	1349
14:00	1600	1482
15:00	1787	1639
16:00	2021	1730
17:00	1990	1658
18:00	1459	1206
19:00	1128	854
20:00	939	694
21:00	813	570
22:00	565	419
23:00	450	270

<750 vphpl Probably Feasible

750 to 875 vphpl Consider Cautiously

>875 vphpl Feasibility Less Likely

Expect reduced Level of Service

# FHWA Road Diet Informational Guide

	East Segment	
Direction	Eastbound	Westbound
Location	395' West of Fairmont	395' West of Fairmont
Count Date	Aug-19	Aug-19
0:00	144	128
1:00	70	68
2:00	54	48
3:00	61	60
4:00	116	106
5:00	362	282
6:00	780	809
7:00	1194	1516
8:00	1179	1742
9:00	1013	1499
10:00	1053	1321
11:00	1182	1266
12:00	1308	1334
13:00	1321	1371
14:00	1350	1354
15:00	1613	1499
16:00	1786	1677
17:00	1855	1619
18:00	1233	1288
19:00	956	909
20:00	820	710
21:00	542	490
22:00	338	360
23:00	222	222

<750 vphpl Probably Feasible

750 to 875 vphpl Consider Cautiously

>875 vphpl Feasibility Less Likely

Expect reduced Level of Service

